

**FOR AGENCY
REVIEW
8/14/2018**



August 2018

**Idaho Transportation Department
DISTRICT 4 ADMINISTRATION BUILDING**



UTILITY MASTER PLAN

Idaho Division of Public Works & Idaho Transportation Department
**CO-LOCATION OF MULTIPLE STATE AGENCIES
AT THE TWIN FALLS I-84 INTERCHANGE**
UTILITY MASTER PLAN

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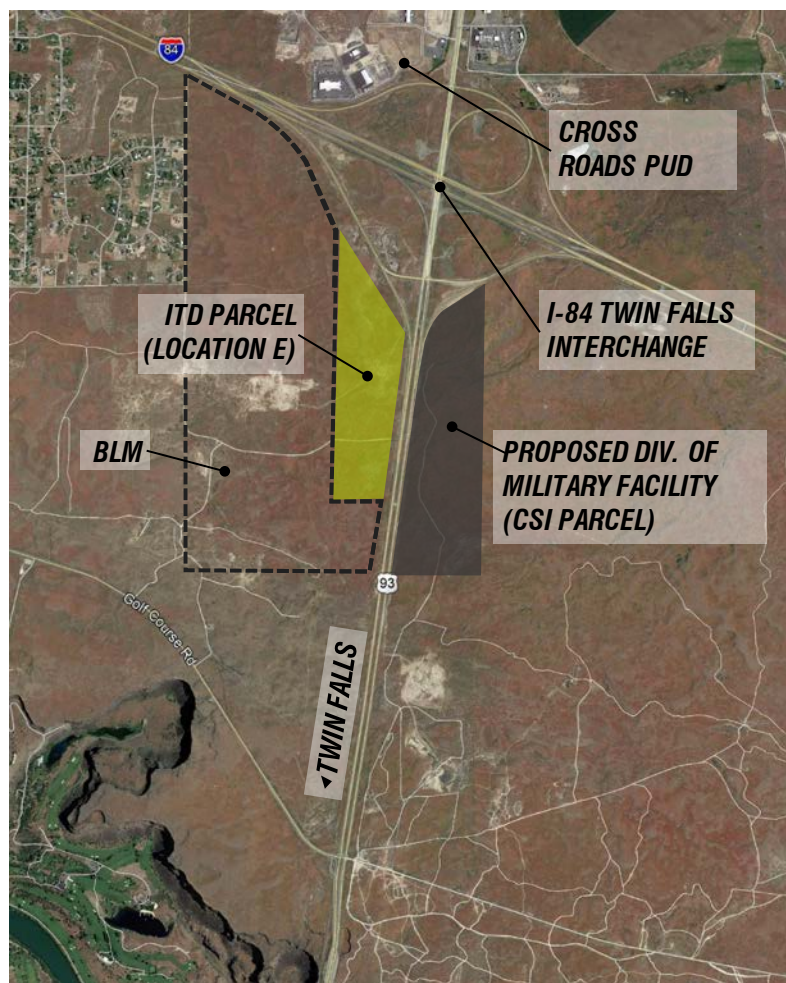
A COST ESTIMATES

CO-LOCATION OF MULTIPLE STATE AGENCIES AT THE TWIN FALLS I-84 INTERCHANGE

UTILITY MASTER PLAN

1.0 INTRODUCTION

A Feasibility Study was developed for the Idaho Transportation Department (ITD) to analyze five parcels for suitability for a potential new ITD District 4 administration building. One of the parcels analyzed, referred to in the Feasibility Study as Location E, is owned by ITD and is suitable for co-location of multiple state agencies. Location E consists of approximately 108 acres and is located on the southwest corner of the I-84 Twin Falls interchange in Jerome County. Interstate 84 is located north and adjacent to the parcel. US-93 is located east and is also adjacent to the parcel. The south and west sides of the property are adjacent to land owned by the US Bureau of Land Management (BLM). ITD has the mineral rights on the BLM property. Location E is shown below.



VICINITY MAP

The other state agencies proposing facilities in the Twin Falls area are the Department of Corrections (Corrections) and the Idaho Division of Military (Military). Corrections is proposing a work-release facility that would house 125 inmates. The Military is currently in negotiations with the College of Southern Idaho (CSI) to acquire the parcel immediately east of Location E across US-93.

A meeting was conducted on July 11, 2018 with the administration staff of the three agencies and the Division of Public Works (DPW) to discuss the feasibility of co-locating the three agencies to one parcel. The discussions included overall timing for each agency, location and facilities' needs, and suitability of co-locating the differing uses. The administration staff for all three agencies stated that co-locating would be suitable, desirable and could be an overall cost savings to the tax payer and each agency.

The timeline for ITD and Corrections are similar, with construction possibly occurring during FY19 for the infrastructure. The timeline for the military is FY22.

2.0 PURPOSE OF STUDY

The Feasibility Study analyzed how to provide utility service to ITD on Location E. The utility demands, specifically water and wastewater, for co-location would significantly change the Feasibility Study's analysis. Therefore, it was determined that an additional analysis was needed to determine how utilities (water, sewer, power and gas) could be delivered to the parcel to serve all three agencies and how costs would be impacted by co-locating. The Military may not co-locate depending on their negotiations with CSI, however, the Military would still need water and wastewater services that could connect to the systems at Location E.

Therefore, this Utility Master Plan analyzes how to deliver water and sewer to the parcel for the higher demands of co-location. **Two options are analyzed herein; A) Connect to the City of Jerome's water and wastewater systems in Cross Roads PUD, and B) Construct standalone on-site water and wastewater systems.** Additional analysis is included to determine the impacts of co-locating the Military on Location E compared to the Military locating on CSI's parcel.

A concept level cost estimate was developed for each option and is included in Appendix A.

(Note – due to the short schedule for this Utility Master Plan, private utility owners, Idaho Power and Intermountain Gas, were not able to provide estimated costs to serve the parcel. Costs will be provided to the agencies upon receiving them from the private utility owners.)

3.0 WATER/WASTEWATER DEMAND DETERMINATION

Each agency has different usage demands. Based on the July 11th meeting and follow-up discussions the following usage-demand criteria was estimated:

Idaho Transportation Department

- Typical hours of operations: Monday through Friday, 8 am to 5 pm with occasional public meetings in the evening.
- 81 Administration Staff (65 current employees, 16 future employees)
- 20 Maintenance Staff (for water/wastewater demand only, assumes that in the future a maintenance facility will be added/moved to the parcel)
- 100 Meeting attendees during typical hours of operations (not including staff already located at facility) for an all-day meeting or training
- 200 Evening Public Meeting attendees for a 2-hour duration
- Landscaping along frontage and parking lot with 25 gpm nightly demand

Department of Corrections

- Typical hours of operations: 7 days a week, 24 hours per day
- 125 Work-release inmates. Work-release inmates typically work construction and are assumed to be away from the facility during standard business hours, 20% working on Saturday away from the facility, and 20% not working on any given weekday.
- 15 Full-time staff. Staff occupy the facility 24 hours per day on various shifts, with fewer working during the graveyard shift.
- Landscaping along frontage and parking lot with 15 gpm nightly demand

Division of Military

- Typical hours of operations: Monday through Friday, 8 am to 5 pm with monthly drill weekends.
- 40 Full-time staff at the facility during standard weekday hours
- 300 Individuals at the facility during drill weekends. It is assumed that these individuals sleep at the facility.
- Landscaping along frontage and parking lot with 25 gpm nightly demand

Excluding irrigation demand, the estimated average daily water demand is approximately 7,800 gallons per day (247,600 gallons monthly) and the estimated maximum flow rate is 61 gallons per minute (gpm). Including irrigation demand, the estimated average day water demand is approximately 27,000 gallons per day and the estimated maximum flow rate is 65 gallons per minute (gpm). The calculation of estimated water usage is shown on the next page.

ESTIMATED WATER DEMANDS

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4.0 CONNECT TO THE CITY OF JEROME'S WATER AND WASTEWATER SYSTEMS IN CROSS ROADS PUD

The City of Jerome provides water and wastewater service to the Cross Roads Planned Unit Development (PUD) located at the northwest corner of the I-84 Twin Falls interchange. Although, the PUD is not annexed into the City of Jerome. The following items were determined based on multiple conversations with the City of Jerome management and engineering staff.

Connection to the City's Water System

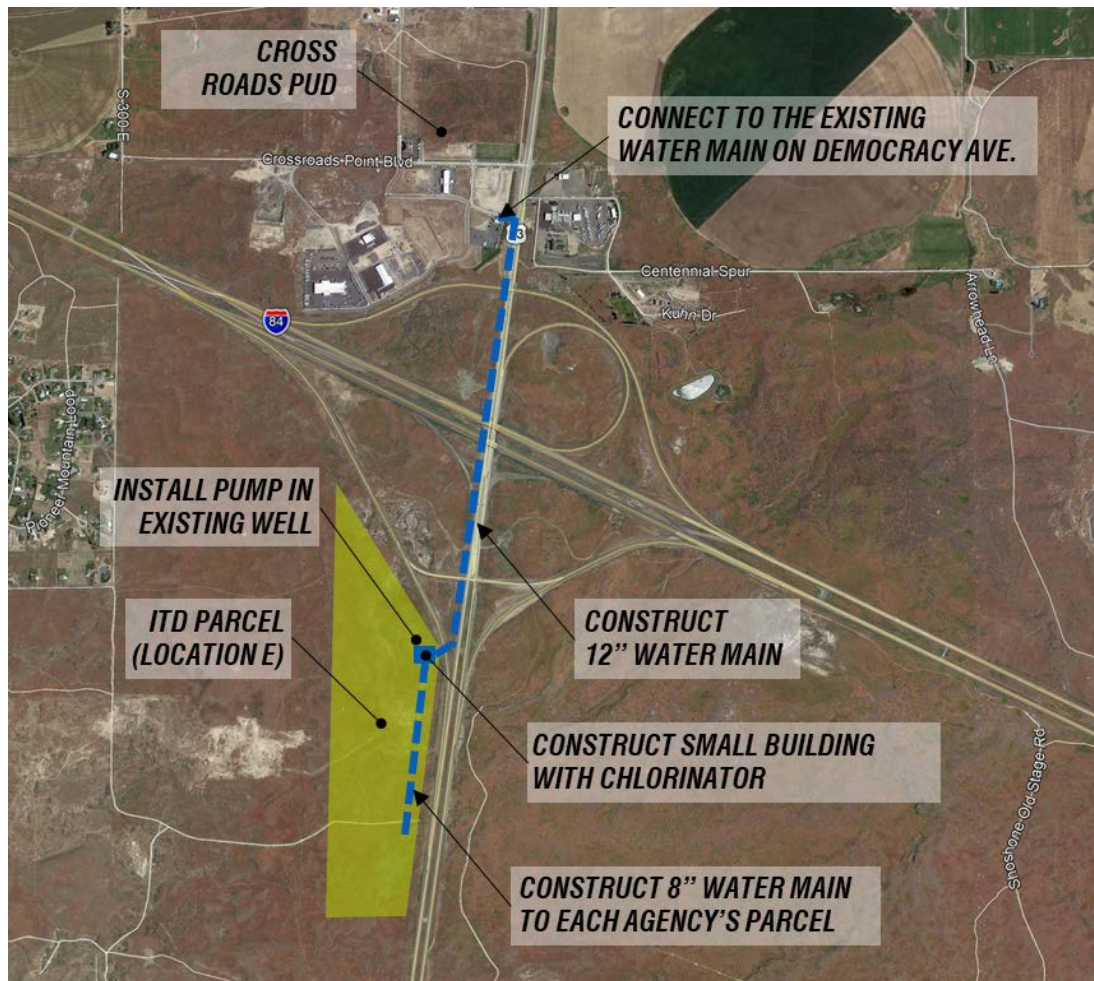
The City's Cross Roads PUD water system is a standalone system that is disconnected from the rest of the City's system. This satellite system consists of a 400,000-gallon water storage tank, well, booster pump building, and water mains. The booster pump building is equipped with multiple large pumps to provide fire flow as well as smaller pumps for the smaller potable water demand. In development of the water system, the City of Jerome agreed to provide 80,000 gallons per day to the properties within Cross Roads PUD. The limiting factor in providing water service is water rights.

To connect to the Cross Roads' water system, a water main would need to be constructed in US-93 right-of-way from the ITD parcel, under I-84 (under the interstate overpass), to the existing water main in Democracy Avenue near Subway. This connection at a minimum would provide fire flow to the ITD parcel. For the Cross Roads' system to provide drinking and irrigation water, additional water rights would need to be provided to the city. ITD owns water rights for the Twin Falls Rest Area which is scheduled to be demolished. However, the water right is only for about 18 gallons per minute which is less than the 65 gallon per minute demand of the co-located agencies.

Alternatively, the existing well located on the ITD parcel (Location E) could be used to provide drinking and irrigation water. A flow control valve would be needed between the Cross Roads' system and the new system to regulate flow. Also, a small building to house a chlorinator would be needed. A water reservoir/tank would not be needed, since fire flows would be provided by the Cross Roads' system.

The figure on the next page illustrates the possible water system construction and connection to the Cross Roads PUD. The estimated cost of this option is \$1,170,000 (See Appendix A: Cost Estimates). This cost could be reduced to \$1,090,000, if the City's system provided the drinking water as well as fire flow.

(Note – The above costs do not include the costs to run water lines on the agency's individual parcels. It is assumed that the costs for these lines would be the same under all options.)



OPTION A: CONNECT TO CITY OF JEROME'S CROSS ROADS PUD WATER SYSTEM

Connection to the City's Wastewater System

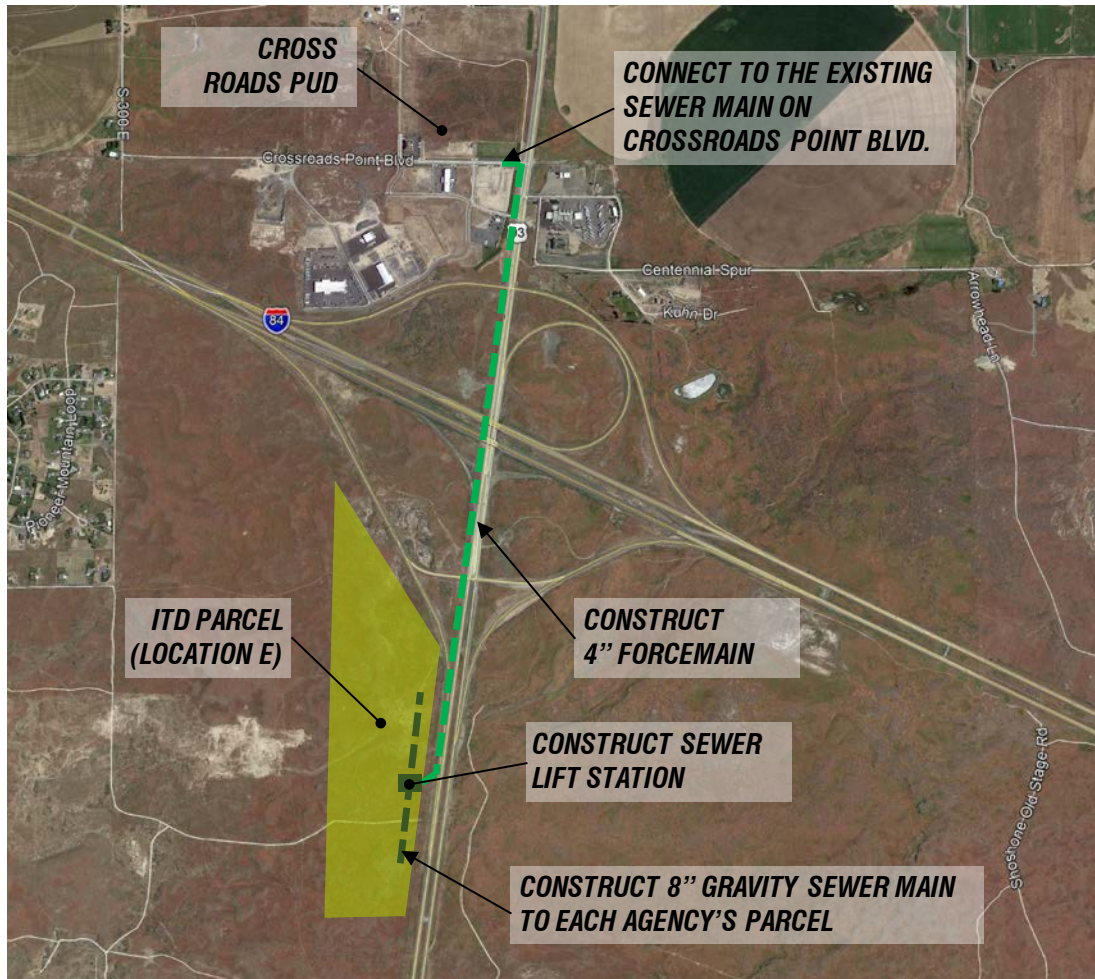
The City's Cross Roads PUD wastewater system consists of gravity sewer mains that collect wastewater from most of the subdivision, except for the area around freightliner which has a small-capacity lift station. The sewer main in Crossroads Point Blvd. is located near US-93. The PUD's collection system conveys wastewater to the Cross Roads Lift Station located west of the PUD on S. 300 East, between Crossroads Point Blvd. and E. 400 south. The Cross Roads Lift Station has dual forcemains (6- and 10-inch diameter) that pump wastewater downstream to the collection system of the Cesco Lift Station (located near the intersection of S. Lincoln Avenue and 300 South). The Cesco Lift Station also has dual forcemains (6- and 10-inch diameter). The Cesco Lift Station pumps to Brockman Lift Station. The Brockman Lift Station is the City's largest pump station and conveys wastewater to the City's wastewater treatment plan.

The Cross Roads PUD collection system and lift station, and City's downstream lift stations and forcemains have sufficient capacity for the wastewater flows estimated from the co-located facilities on ITD's parcel. However, the existing pumps in both the Cross Roads and Cesco Lift Stations may not be sufficient to handle the wastewater flows when Cross Roads PUD is fully developed. Therefore, it is anticipated that some financial assistance will be needed to upgrade these lift station pumps in the future in order to serve ITD's parcel.

To connect to the Cross Roads' wastewater system, a lift station would need to be constructed on ITD's parcel and a 4-inch forcemain would need to be constructed in US-93 right-of-way from the ITD parcel, under I-84 (under the interstate overpass), to the existing sewer main in Crossroads Point Blvd. north of the new Country Store. The lift station should be 8-foot in diameter and 20 feet deep. The lift station pumps would be sized to pump at least 90 gpm to scour the 4-inch forcemain (which is greater than the anticipated 61 gpm peak flow).

The figure below illustrates the possible wastewater system construction and connection to the Cross Roads PUD. The estimated cost of this option is \$1,260,000 (See Appendix A: Cost Estimates).

(Note – The above costs do not include the costs to run sewer lines on the agency's individual parcels. It is assumed that the costs for these lines would be the same under all options.)



OPTION A: CONNECT TO CITY OF JEROME'S CROSS ROADS PUD WASTEWATER SYSTEM

The combined cost of Option A to connect to the City of Jerome's water and wastewater system in the Cross Roads PUD is estimated at \$2,430,000.

Political Support for Connection to City Services

The growth of the Cross Roads PUD has been significantly slower than originally assumed. The revenue received for maintenance from the developed properties is less than the actual cost of maintaining the water and wastewater systems. In addition, the subdivision has taken time away from staff to spend on other City issues within the annexed city limits. Other than maintenance fees, no other revenue or tangible benefits are received by the city from the development of Cross Roads PUD. Consequentially, expansion of the Cross Roads water and wastewater systems to serve south of the interchange may not receive political support without incentivization.

If the City agrees to allow connection to their systems, a development agreement would be required that outlines the construction of the facilities, connection fees, operation and maintenance fees, and roles and duties of each party.

5.0 CONSTRUCT STANDALONE ON-SITE WATER AND WASTEWATER SYSTEMS

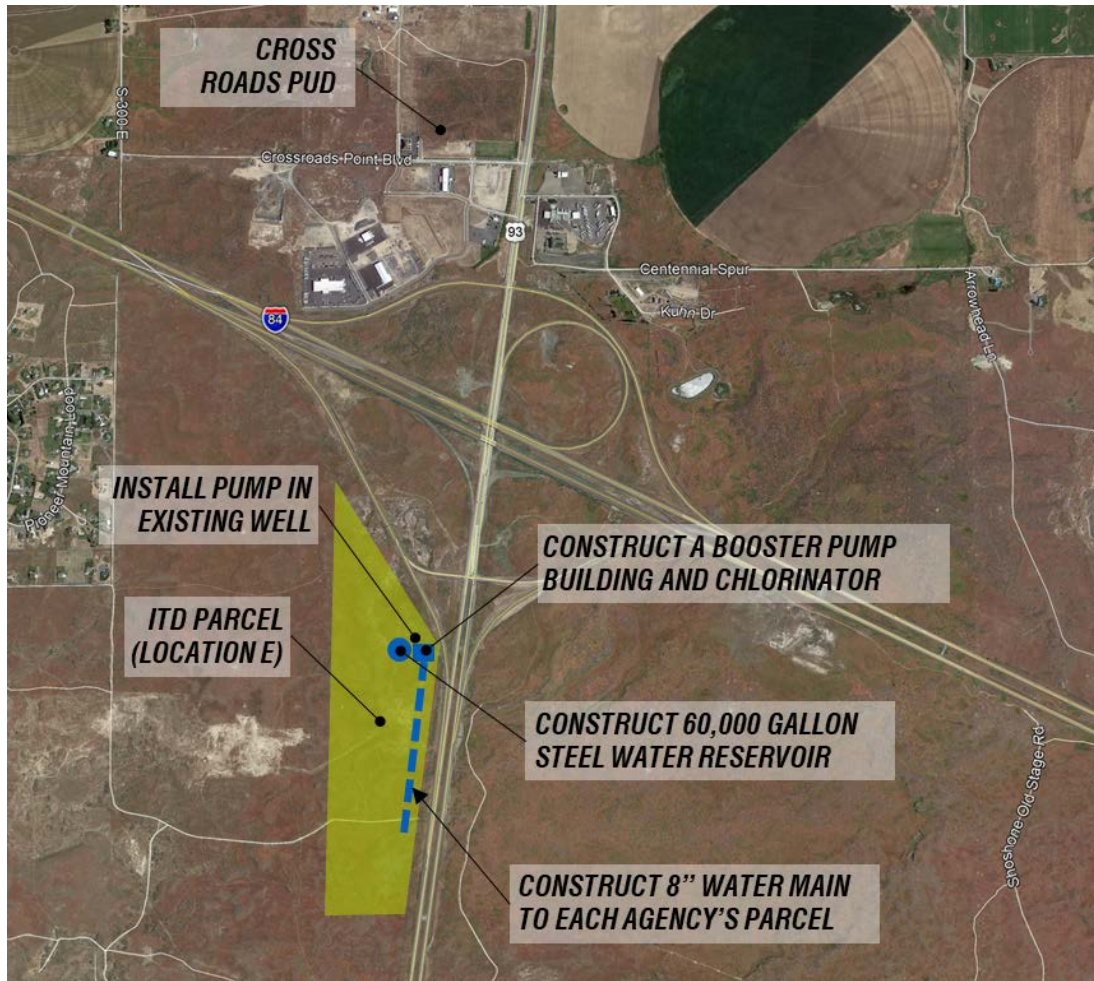
On-site Water System

An on-site water system would require the acquisition (purchase or transfer) of additional water rights beyond those rights of the Twin Falls Rest Area. In addition, the following facilities would need to be constructed:

- Install a pump in the existing well located on the parcel.
- Construct a 60,000-gallon steel water reservoir.
- Construct a water booster pump building and chlorinator.
- Construct an 8-inch water main to each agency's parcel.

The figure on the next page illustrates the possible water system construction. The estimated cost of this option is \$760,000 (See Appendix A: Cost Estimates).

(Note – The above costs do not include the costs to run water lines on the agency's individual parcels. It is assumed that the costs for these lines would be the same under all options.)



OPTION B: CONSTRUCT ON-SITE WATER SYSTEM

On-site Wastewater System

The individual anticipated flows from ITD and the Military, separately, could allow each to construct independent large soil absorption systems (drainfields). The anticipated flows from Corrections or ITD plus the Military would most likely require connection to a municipal or similar wastewater system. Therefore, an on-site wastewater system would consist of the construction a two-cell evaporative lagoon. The following facilities would need to be constructed:

- Construct a two-cell evaporative lagoon, approximately 4 acres (400' x 400')
- Install a flow control structure at the lagoon to allow flow to be transferred to either cell and to receive flows from each agency.
- Each agency would construct a small lift station on their property and associated 2-inch forcemain. The lift station would pump to the flow control structure / evaporative lagoon.
- Each agency would also construct their own septic tanks.

The figure on the next page illustrates the possible wastewater system construction. The estimated cost of this option is \$1,020,000 (See Appendix A: Cost Estimates).

(Note – The above costs do not include the costs to run sewer lines on the agency's individual parcels. It is assumed that the costs for these lines would be the same under all options.)

6.0 CONCLUSIONS & RECOMMENDATIONS

The following tables shows the estimated costs for the separate and combined water and wastewater system options.

WATER SYSTEM ESTIMATED COSTS BY OPTION		
	OVERALL COST	1/3 SHARED COSTS
OPTION A - CONNECT TO CITY	\$1,170,000	\$390,000
OPTION B - CONSTRUCT STANDALONE SYSTEM	\$760,000	\$254,000

WASTEWATER SYSTEM ESTIMATED COSTS BY OPTION		
	OVERALL COST	1/3 SHARED COSTS
OPTION A - CONNECT TO CITY	\$1,260,000	\$420,000
OPTION B - CONSTRUCT STANDALONE SYSTEM	\$1,020,000	\$340,000

COMBINED WATER/WASTEWATER COSTS BY OPTION		
	OVERALL COST	1/3 SHARED COSTS
OPTION A - CONNECT TO CITY	\$2,430,000	\$810,000
OPTION B - CONSTRUCT STANDALONE SYSTEM	\$1,780,000	\$594,000

The least capital cost is Option B, construct standalone on-site water and wastewater systems, estimated at \$1,780,000. If the estimated cost of Option B were split evenly between the agencies, the estimated cost per agency would be \$594,000. Option B is the least desirable options when aesthetics and potential odor from the evaporative lagoon are considered. Also, Option B's operations and maintenance will distract the agencies from their primary missions.

In addition, Option B has the highest life cycle costs since the evaporative lagoon liner will need to be replaced in 20 years. The present value replacement cost is \$155,000. The other operations and maintenance costs would be similar between Option A and B. The total estimated cost of Option B, including the future replacement cost in today's dollars, is \$1,935,000. If the estimated cost of Option B, including the future replacement cost, were split evenly between the agencies, the estimated cost per agency would be \$646,000 (See the table below).

OPTION B WITH LIFE-CYCLE COST CONSIDERATIONS		
	OVERALL COST	1/3 SHARED COSTS
WATER	\$760,000	\$254,000
WASTEWATER	\$1,175,000	\$392,000
TOTAL =	\$1,935,000	\$646,000

The estimated capital cost of Option A, connect to the City of Jerome's water and wastewater systems in Cross Roads PUD, is \$2,430,000, or \$810,000 per agency assuming a one-third split. Since the City would be maintaining the systems, this option requires no operation and maintenance personnel and has no future capital costs but would have monthly water and sewer maintenance costs.

A third option (referred to as Option C here) would be to construct the water system of Option B, and connect to the City of Jerome's wastewater system as outlined in Option A. This would result in an estimated cost of \$2,020,000, or \$674,000 per agency assuming a one-third split (See the table below). This option would still require operations and maintenance for the water system which would distract the agencies from their primary missions.

OPTION C: STANDALONE WATER SYSTEM WITH WASTEWATER CONNECTED TO CITY		
	OVERALL COST	1/3 SHARED COSTS
WATER (OPTION B)	\$760,000	\$254,000
WASTEWATER (OPTION A)	\$1,260,000	\$420,000
TOTAL =	\$2,020,000	\$674,000

The cost of each Option is summarized below.

SUMMARY OF THE COMBINED COSTS FOR ALL OPTIONS				
	OPTION A CONNECT TO CITY SERVICES	OPTION B ON-SITE SYSTEMS (W/LIFE-CYCLE COST)	OPTION C ON-SITE WATER, CITY SEWER	ITD COSTS WITHOUT CO- LOCATING*
WATER	\$1,170,000	\$760,000	\$760,000	
WASTEWATER	\$1,260,000	\$1,175,000	\$1,260,000	
TOTAL =	\$2,430,000	\$1,935,000	\$2,020,000	
1/3 SHARED COSTS =	\$810,000	\$646,000	\$674,000	\$550,000

Co-locating the facilities on ITD's parcel is not the least cost for ITD. However, since all three agencies are State of Idaho entities, it may be an overall cost savings for the State of Idaho to co-locate the three agencies on one parcel. **If co-location is desired, then Option A and C are recommended.** Both Options A and C have risks associated with obtaining an agreement with the City of Jerome. Option A has the highest estimated capital cost but requires no future capital improvements and removes all operations and maintenance responsibilities from the agencies and State. Option C is estimated to cost 20% less than Option A, but would still leave the agencies with operations and maintenance associated with the water system. Option B is not recommended, if it can be avoided, due to the aesthetics, potential odor, and operations and maintenance costs.

If ITD decides to go-it-alone, without co-locating, the capacity of the on-site wastewater system would be 2,500 gallons per day. This will limit the employee count at the facility to a total of 100 full-time employees (81 administration employees are currently projected in the Feasibility Study), plus the anticipated large meetings during the daytime (100 attendees), and one large public meeting during the evening.

7.0 MILITARY OPTION

Water

As previously mentioned, the Military may be located on CSI's parcel across US-93 from ITD's parcel (Location E). If the Military goes alone, the drinking water peak demand is estimated at about 45 gallons per minutes. A well on CSI's parcel would need to be sized for this demand. To meet fire flows, a 60,000-gallon tank and fire pump and building would be needed. The total estimated water facility cost for these facilities is \$640,000 (See Appendix A: Cost Estimates).

If the Military connected to ITD's parcel for water, regardless which overall water option is selected to serve ITD's parcel, the additional construction and costs are as follows:

- Connect to the ITD parcel's distribution system.
- Jack and bore a 16-inch steel casing and 8-inch water line 250 feet under US-93.
- Extend a 12-inch watermain 2,500 feet south near the proposed entry into the facility off US-93.

The estimated costs to extend water service from ITD's parcel to the CSI parcel is estimated at \$430,000. In addition, the estimated one-third cost of Option A and B are \$390,000 and \$254,000, respectively. Therefore, the estimated costs to the Military to be located on CSI's parcel and connected to ITD's parcel for water under Option A and B is \$820,000 or \$684,000, respectively.

Wastewater

For wastewater, the monthly flows (excluding irrigation) anticipated for the Military is approximately 39,000 gallons which account for about 16% of the combined monthly total volume for all three agencies. This equates to an average day wastewater flows of about 1,900 gallons per day which would allow the wastewater system to be a large soil absorption system (LSAS). The cost for a LSAS is estimated at \$170,000 (See Appendix A: Cost Estimates).

If the Military connected to ITD's parcel for sewer, regardless which overall sewer option is selected to serve ITD's parcel, the additional construction and costs are as follows:

- Construct a lift station on the Military's property near the proposed entry into the facility off US-93.
- Install two large septic tanks
- Construct a 2-inch forcemain 2,000 feet north to the ITD wastewater system.
- Directional bore a 2-inch forcemain under US-93 for 250 feet.

The estimated costs to extend sewer service from ITD's parcel to the CSI parcel is \$220,000. This extension cost, by itself, is almost the same cost as the go-it-alone large soil absorption system. In addition, the estimated one-third cost of Option A and B are \$420,000 and \$392,000, respectively. Therefore, the estimated costs to the Military to be located on CSI's parcel and connected to ITD's parcel for wastewater under Option A and B is \$640,000 and \$612,000, respectively. These costs are substantially higher than the go-it-alone large soil absorption system costs.

Military Option Conclusion and Recommendations

The following tables show the estimated costs for the separate and combined water and wastewater system options for the Military as outlined above.

STANDALONE SYSTEMS ON CSI'S PARCEL ESTIMATED COSTS			
	WATER	WASTEWATER	COMBINED COSTS
STANDALONE SYSTEMS ON CSI'S PARCEL	\$640,000	\$170,000	\$810,000

CONNECT TO ITD'S SYSTEMS ESTIMATED COSTS (OPTION A)			
	WATER (OPTION A)	WASTEWATER (OPTION A)	COMBINED COSTS
ESTIMATED EXTENSION COSTS	\$430,000	\$220,000	
1/3 SHARED COSTS FOR ITD'S SYSTEM	\$390,000	\$420,000	
TOTAL =	\$820,000	\$640,000	

CONNECT TO ITD'S SYSTEMS ESTIMATED COSTS (OPTION B)			
	WATER (OPTION B)	WASTEWATER (OPTION B)	COMBINED COSTS
ESTIMATED EXTENSION COSTS	\$430,000	\$220,000	
1/3 SHARED COSTS FOR ITD'S SYSTEM	\$254,000	\$392,000	
TOTAL =	\$684,000	\$612,000	

In summary, if the Military completely decides to go-it-alone on the CSI's parcel, the estimated combined costs for water and sewer is \$810,000 which is the same cost or more than being located on ITD's parcel.

MILITARY SUMMARY OF THE COMBINED COSTS FOR ALL OPTIONS				
	OPTION A CONNECT TO CITY SERVICES	OPTION B ON-SITE SYSTEMS (W/LIFE-CYCLE COST)	OPTION C ON-SITE WATER, CITY SEWER	MILITARY COSTS WITHOUT CO- LOCATING
WATER 1/3 COST-SHARE	\$390,000	\$254,000	\$254,000	\$810,000
WASTEWATER 1/3 COST-SHARE	\$420,000	\$392,000	\$420,000	
SUB-TOTAL (IF LOCATED ON ITD'S PARCEL) =	\$810,000	\$646,000	\$674,000	
ESTIMATED EXTENSION COST TO CSI'S PROPERTY		\$650,000		
TOTAL (IF LOCATED ON CSI'S PARCEL) =	\$1,460,000	\$1,296,000	\$1,324,000	



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Engineer: Cleaver & Thorne
Client: DPW
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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST
OPTION A - CONNECT TO THE CITY OF JEROME'S WATER SYSTEM

CONSTRUCTION ITEM

POTABLE WATER	QUANTITY	UNITS	UNIT PRICE	COST
12" Water Main (includes rock trenching)	6500	LF	\$ 90.00	\$ 585,000
Flow Control Valve Station	1	LS	\$ 12,000.00	\$ 12,000
Pavement trench repair	1,400	SF	\$ 8.00	\$ 11,200
Onsite Well pump, small building with chlorinator	1	LS	\$ 80,000.00	\$ 80,000
Construction Surveying	1	LS	\$ 5,000.00	\$ 5,000
Materials Sampling and Testing	1	LS	\$ 10,000.00	\$ 10,000
Traffic Control	1	LS	\$ 15,000.00	\$ 15,000
Water Connection Fees (for fire flow only)	3	EA	\$ 3,000.00	\$ 9,000
Water Rights	1	LS	\$ 50,000.00	\$ 50,000
SUB-TOTAL				\$ 777,200
Unknown Items	1	LS	15%	\$ 116,580
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 893,780
GC Mobilization, Bonding, & Insurance			10%	\$ 89,378
Construction Contingency (Change Orders)			5%	\$ 44,689
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				\$ 1,028,000
SOFT COSTS				
Design Surveying (split with sewer)	1	LS	\$ 10,000	\$ 10,000
Engineering Design Fees			12%	\$ 123,360
SOFT COSTS SUB-TOTAL (Rounded up to the nearest thousand)				\$ 134,000
TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)				\$ 1,170,000

The opinion of most probable cost herein is based on our perception of current conditions at the project location. This estimate reflects our opinion of probable costs at this time and is subject to change as the project design matures. Keller Associates has no control over variances in the cost of labor, materials, equipment, services provided by others, contractor's methods of determining prices, competitive bidding or market conditions, practices or bidding strategies. Keller Associates cannot and does not warrant or guarantee that proposals, bids or actual construction costs will not vary from the costs presented herein.



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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST
OPTION A - CONNECT TO THE CITY OF JEROME'S WASTEWATER SYSTEM

CONSTRUCTION ITEM

WASTEWATER SYSTEM	QUANTITY	UNITS	UNIT PRICE	COST
90 gpm Lift Station (includes rock excavation)	1	LS	\$ 220,000.00	\$ 220,000
Valve Vault	1	LS	\$ 20,000.00	\$ 20,000
4" Forcemain (includes rock trenching)	7,200	LF	\$ 55.00	\$ 396,000
Pavement trench repair	1,400	SF	\$ 8.00	\$ 11,200
Air and vacuum release valve station	1	EA	\$ 15,000.00	\$ 15,000
8" Sewer Collection System (includes rock trenching)	1,000	LF	\$ 100.00	\$ 100,000
Construction Surveying	1	LS	12,000.00	\$ 12,000
Materials Sampling and Testing	1	LS	15,000.00	\$ 15,000
Contribute to upgrade pumps at Downstream Lift Stations	2	EA	10,000.00	\$ 20,000
Sewer Connection Fees	3	LS	10,000.00	\$ 30,000
SUB-TOTAL				\$ 839,200
Unknown Items	1	LS	15%	\$ 125,880
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 965,080
GC Mobilization, Bonding, & Insurance			10%	\$ 96,508
Construction Contingency (Change Orders)			5%	\$ 48,254
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				\$ 1,110,000
SOFT COSTS				
Design Survey (split with water)	1	LS	\$ 10,000	\$ 10,000
Engineering Design Fees			12%	\$ 133,200
SOFT COSTS SUB-TOTAL (Rounded up to the nearest thousand)				\$ 144,000
TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)				\$ 1,260,000

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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST OPTION B - CONSTRUCT STANDALONE ON-SITE WATER SYSTEM

CONSTRUCTION ITEM

POTABLE WATER	QUANTITY	UNITS	UNIT PRICE	COST
Well pump	1	LS	\$ 25,000.00	\$ 25,000
Booster Pump Building and Chlorinator	1	LS	\$ 150,000.00	\$ 150,000
60,000 gallon water storage tank	60,000	GAL	\$ 3.00	\$ 180,000
8" Water Main (includes rock trenching)	1200	LF	\$ 75.00	\$ 90,000
Construction Surveying	1	LS	\$ 5,000.00	\$ 5,000
Materials Sampling and Testing	1	LS	\$ 10,000.00	\$ 10,000
Water Rights	1	LS	\$ 50,000.00	\$ 50,000
SUB-TOTAL				\$ 510,000
Unknown Items	1	LS	15%	\$ 76,500
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 586,500
GC Mobilization, Bonding, & Insurance			10%	\$ 58,650
Construction Contingency (Change Orders)			5%	\$ 29,325
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				\$ 674,000
SOFT COSTS				
Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation (part of overall site)	0	LS	\$ -	\$ -
Engineering Design Fees			12%	\$ 80,880
SOFT COST SUB-TOTAL (Rounded up to the nearest thousand)				\$ 81,000
TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)				\$ 760,000

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Project: Utility Master Plan
Engineer: Cleaver & Thorne
Client: DPW
Printed: 8/14/2018

ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST OPTION B - CONSTRUCT STANDALONE ON-SITE WASTEWATER SYSTEM

CONSTRUCTION ITEM

WASTEWATER SYSTEM	QUANTITY	UNITS	UNIT PRICE	COST
Small package lift stations (includes rock excavation)	3	LS	\$ 25,000.00	\$ 75,000
Large Septic Tanks	6	EA	\$ 7,500.00	\$ 45,000
2" pressure line (includes rock trenching)	3,100	LF	\$ 40.00	\$ 124,000
Two-Cell Evaporative Lagoon (400' x 400')	160,000	SF	\$ 2.50	\$ 400,000
Lagoon Flow Control Distribution Box	1	LS	\$ 15,000.00	\$ 15,000
Construction Surveying	1	LS	\$ 10,000	\$ 10,000
Materials Sampling and Testing	1	LS	\$ 15,000	\$ 15,000
SUB-TOTAL				684,000.00
Unknown Items	1	LS	15%	\$ 102,600
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 786,600
GC Mobilization, Bonding, & Insurance			10%	\$ 78,660
Construction Contingency (Change Orders)			5%	\$ 39,330
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				905,000
SOFT COSTS				
Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation	1	LS	\$ 5,000	\$ 5,000
Engineering Design Fees			12%	\$ 108,600
SOFT COSTS SUB-TOTAL (Rounded up to the nearest thousand)				\$ 114,000
TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)				\$ 1,020,000

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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST
ITD'S ESTIMATED COSTS WITHOUT CO-LOCATING - WATER

CONSTRUCTION ITEM

POTABLE WATER	QUANTITY	UNITS	UNIT PRICE	COST
Well pump (use existing well)	1	LS	\$ 10,000.00	\$ 10,000
Booster Pump and Chlorinator (housed in a outbuilding)	1	LS	\$ 50,000.00	\$ 50,000
60,000 gallon water storage tank	60,000	GAL	\$ 3.00	\$ 180,000
8" Water Main (includes rock trenching)	200	LF	\$ 90.00	\$ 18,000
Construction Surveying	1	LS	\$ 2,000.00	\$ 2,000
Materials Sampling and Testing	1	LS	\$ 2,000.00	\$ 2,000
Water Rights (transferred from Twin Falls Rest Area)	1	LS	\$ -	\$ -
SUB-TOTAL				\$ 262,000
Unknown Items	1	LS	15%	\$ 39,300
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 301,300
GC Mobilization, Bonding, & Insurance			10%	\$ 30,130
Construction Contingency (Change Orders)			5%	\$ 15,065
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				\$ 346,000
SOFT COSTS				
Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation (part of overall site)	0	LS	\$ -	\$ -
Engineering Design Fees			12%	\$ 41,520
SOFT COST SUB-TOTAL (Rounded up to the nearest thousand)				\$ 42,000
TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)				\$ 390,000

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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST
ITD'S ESTIMATED COSTS WITHOUT CO-LOCATING - WASTEWATER

CONSTRUCTION ITEM

WASTEWATER SYSTEM	QUANTITY	UNITS	UNIT PRICE	COST
Small package lift stations (includes rock excavation)	1	LS	\$ 25,000.00	\$ 25,000
Large Septic Tanks	1	EA	\$ 7,500.00	\$ 7,500
2" pressure line (includes rock trenching)	100	LF	\$ 40.00	\$ 4,000
Large Soil Absorption System (drainfield)	1	LS	\$ 60,000.00	\$ 60,000
Construction Surveying	1	LS	\$ 2,000	\$ 2,000
SUB-TOTAL				98,500.00

Unknown Items	1	LS	15%	\$ 14,775
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 113,275

GC Mobilization, Bonding, & Insurance	10%	\$ 11,328
Construction Contingency (Change Orders)	5%	\$ 5,664
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)		130,000

SOFT COSTS

Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation	1	LS	\$ 5,000	\$ 5,000
Engineering Design Fees			12%	\$ 15,600
SOFT COSTS SUB-TOTAL (Rounded up to the nearest thousand)				\$ 21,000

TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)	\$ 160,000
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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST MILITARY OPTION - STANDALONE ON-SITE WATER SYSTEM ON CSI'S PROPERTY

CONSTRUCTION ITEM

POTABLE WATER	QUANTITY	UNITS	UNIT PRICE	COST
Drill well and pump	1	LS	\$ 25,000.00	\$ 25,000
Booster Pump Building and Chlorinator	1	LS	\$ 150,000.00	\$ 150,000
60,000 gallon water storage tank	60,000	GAL	\$ 3.00	\$ 180,000
8" Water Main (includes rock trenching)	400	LF	\$ 90.00	\$ 36,000
Construction Surveying	1	LS	\$ 5,000.00	\$ 5,000
Materials Sampling and Testing	1	LS	\$ 10,000.00	\$ 10,000
Water Rights	1	LS	\$ 20,000.00	\$ 20,000
SUB-TOTAL				\$ 426,000
Unknown Items	1	LS	15%	\$ 63,900
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 489,900
GC Mobilization, Bonding, & Insurance			10%	\$ 48,990
Construction Contingency (Change Orders)			5%	\$ 24,495
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				\$ 563,000
SOFT COSTS				
Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation (part of overall site)	0	LS	\$ -	\$ -
Engineering Design Fees			12%	\$ 67,560
SOFT COST SUB-TOTAL (Rounded up to the nearest thousand)				\$ 68,000
TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)				\$ 640,000

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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST

MILITARY OPTION - STANDALONE ON-SITE WASTE WATER SYSTEM ON CSI'S PROPERTY

CONSTRUCTION ITEM

WASTEWATER SYSTEM	QUANTITY	UNITS	UNIT PRICE	COST
Small package lift stations (includes rock excavation)	1	LS	\$ 25,000.00	\$ 25,000
Large Septic Tanks	2	EA	\$ 7,500.00	\$ 15,000
2" pressure line (includes rock trenching)	100	LF	\$ 40.00	\$ 4,000
Large Soil Absorption System (drainfield)	1	LS	\$ 60,000.00	\$ 60,000
Construction Surveying	1	LS	\$ 5,000	\$ 5,000
SUB-TOTAL				109,000.00
Unknown Items	1	LS	15%	\$ 16,350
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 125,350
GC Mobilization, Bonding, & Insurance			10%	\$ 12,535
Construction Contingency (Change Orders)			5%	\$ 6,268
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				144,000
SOFT COSTS				
Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation	1	LS	\$ 5,000	\$ 5,000
Engineering Design Fees			12%	\$ 17,280
SOFT COSTS SUB-TOTAL (Rounded up to the nearest thousand)				\$ 23,000
TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)				\$ 170,000

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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST MILITARY OPTION - WATER EXTENSION FROM ITD'S PARCEL

CONSTRUCTION ITEM

POTABLE WATER	QUANTITY	UNITS	UNIT PRICE	COST
Jack and bore 16-inch casing w/8" waterline	250	LF	\$ 250.00	\$ 62,500
8" Water Main (includes rock trenching)	2500	LF	\$ 75.00	\$ 187,500
Construction Surveying	1	LS	\$ 5,000.00	\$ 5,000
Materials Sampling and Testing	1	LS	\$ 5,000.00	\$ 5,000
SUB-TOTAL				\$ 260,000
Unknown Items	1	LS	15%	\$ 39,000
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 299,000
GC Mobilization, Bonding, & Insurance			10%	\$ 29,900
Construction Contingency (Change Orders)			5%	\$ 14,950
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)				\$ 344,000
SOFT COSTS				
Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation (part of overall site)	0	LS	\$ -	\$ -
Engineering Design Fees			12%	\$ 41,280
SOFT COST SUB-TOTAL (Rounded up to the nearest thousand)				\$ 42,000

TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)	\$ 390,000
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ENGINEER'S OPINION OF MOST PROBABLE CONSTRUCTION COST MILITARY OPTION - SEWER EXTENSION FROM ITD'S PARCEL

CONSTRUCTION ITEM

WASTEWATER SYSTEM

	QUANTITY	UNITS	UNIT PRICE	COST
Small package lift stations (includes rock excavation)	1	LS	\$ 35,000.00	\$ 35,000
Large Septic Tanks	2	EA	\$ 7,500.00	\$ 15,000
2" pressure line (includes rock trenching)	2,000	LF	\$ 40.00	\$ 80,000
Construction Surveying	1	LS	\$ 5,000.00	\$ 5,000
Materials Sampling and Testing	1	LS	\$ 5,000	\$ 5,000
SUB-TOTAL				140,000.00

Unknown Items	1	LS	15%	\$ 21,000
SUB-TOTAL (Rounded up to the nearest thousand)				\$ 161,000

GC Mobilization, Bonding, & Insurance	10%	\$ 16,100
Construction Contingency (Change Orders)	5%	\$ 8,050
CONSTRUCTION TOTAL (Rounded up to the nearest thousand)		185,000

SOFT COSTS

Design Survey (part of overall site)	0	LS	\$ -	\$ -
Geotechnical Investigation	1	LS	\$ 5,000	\$ 5,000
Engineering Design Fees			12%	\$ 22,200
SOFT COSTS SUB-TOTAL (Rounded up to the nearest thousand)				\$ 28,000

TOTAL COST ESTIMATE (Rounded up to the nearest ten thousand)	\$ 220,000
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